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REGISTRATION BUREAU FOR DRAUGHTSMEN.

This bureau is established for the use of architects wanting draughtsmen and draughtsmen wanting positions, free of expense to either party.

All draughtsmen wishing positions must register in person in this office and answer the following questions:

Name and address?
Age?
Married or single?
Experience?
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Salary expected?
References?

All architects wishing draughtsmen are invited to use this bureau.

PROFESSIONAL COMMENT.

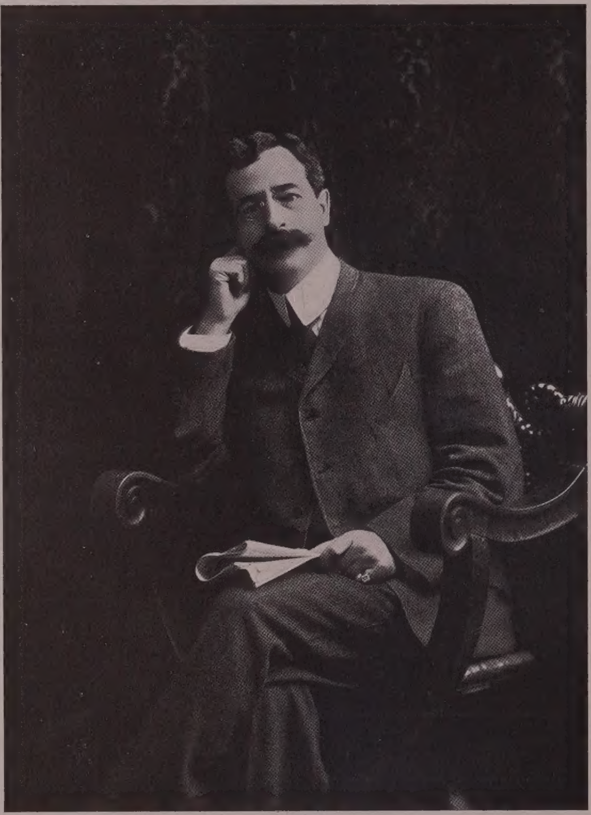
IT is gratifying to see that the profession is now being consulted by municipal authorities, not only in relation to the designs of public buildings, but also in relation to questions of site, a matter which in past years has been left entirely to commissions who have been governed in their action by political rather than artistic considerations. In accordance with this new principle in our municipal affairs, Mayor McClellan has asked Messrs. Carrere and Hastings to arbitrate the dispute which has arisen over the site for the new public library in Brooklyn. The Comptroller wishes the library built on the Plaza near Prospect Park, and the residents of the district agree with him. Many of the trustees of the library think that the site selected should be more centrally located, and the Mayor has appealed to the architects to report on the merits of the two propositions, and he will probably be guided in the action that he takes in the Board of Estimates by their recommendations.

THE Japanese are showing their enterprise in other fields than that of war and we now have Japanese designers practicing their profession in New York in connection with a construction company which is ready to design and build Japanese residences and gardens under the same conditions as apply to the practice of our native architects. It further promises that the work will be executed by Japanese workmen in all particulars.

THE first of the Phipps model tenements is shortly to be begun on a site on the north side of 31st Street near First Avenue and will comprise three units all identical in style and architecture. These buildings will have a combined frontage of 180 feet and will be six stories in height. The site selected was chosen for the reason that in that particular quarter of the city there are at present no model tenements, and the plan adopted is one that provides entrances to the apartments through the courts upon which the greater part of the rooms will face. The buildings are to be entirely fireproof and will be supplied with steam and hot water service, and arrangements are being made for the installation of an electric plant if it is found desirable. Every suite of rooms will have a bath as well as the toilet required by the Tenement House Act, and a large laundry, and crematory for the incineration of garbage will be placed in the cellar. In all the suite of rooms, large and small, the hallways will be arranged with the same consideration for privacy that is now found in more expensive apartments, and a roof garden occupies the greater portion of the top of the building. The plans have recently been filed with the Tenement House Department and Mr. Grosvenor Atterbury, the Architect, is to be congratulated on the splendid work so far accomplished.

FOLLOWING the co-operative spirit of the age, a number of real estate owners are now forming a new insurance company on a profit-sharing basis as a protest against the arbitrary methods and excessive charges under which real estate in New York suffers at present from the old-line companies. The prospectus of this company makes a statement that "real estate owners in the city of New York for the past forty years have been paying one hundred dollars in premiums to get back seven dollars in fire loss, which is all they ever get back. The cause of this evil is that their property is thrown in with all classes of risks, good, bad and indifferent, whereby they are charged with the average loss ratio of all classes amounting to fifty-five per cent of the entire premium paid. In addition to this, on account of the evils of the present agency system, they are charged with forty-two per cent of the actual premiums paid for operating expenses." The prospectus of this "profit-sharing company" promises to overcome most of these evils, and if it can accomplish this result, architects will not be among the least to call it blessed.

THE recent action of the Court of Appeals of the State of New York in condemning what is known as the Ornamental Projection Ordinance will leave a good many structures, erected during the past few years, with very defective titles. The decision rendered by the Court in a suit against the Klaw and Erlanger Construction Company, owners of the New Amsterdam Theatre on the south side of 42nd Street, declares this ordinance unconstitutional and states that "The structure which the defendant in this case is erecting cannot in any event be regarded as a use of the street which benefits at all the public at large. On the contrary, it enhances the value of the defendant's property alone, and withdraws from the public a portion of the street itself. If the legality of the ordinance be sustained it would permit individuals to appropriate from two to five feet of public property all along the streets of the city, and under the guise of ornamental projections to devote the land to whatever uses their private interests might require. The ordinance attempts to sanction private encroachments upon public property, which by the greatest stretch of the imagination cannot be considered as beneficial to the general public, or as contributing to the business or commercial welfare of the community at large. Ordinances which thus devote public property to private uses are not looked upon with favor, and the courts will scan them closely with a desire to jealously guard the rights of the public from illegal invasion under the guise of municipal authority. An attempt by the municipality to authorize a willful encroachment or construction of this character will always be condemned unless the power to sanction it is clearly shown."



Architects of To-Day.

MR. HENRY C. PELTON, NEW YORK.

ACCORDING to the reports in some of the technical papers some ingenious Russian Architects are using paper as a building material and it is stated that houses have been built entirely of blocks of papier-mache. In certain other towns in Russia the experiment is being made of utilizing paper for paving the roads and streets, and in this case the blocks are compressed to great solidity and are said to stand excellently the wear and tear of traffic, the only objection being the excessive cost of manufacture.

THE plans published in the daily press of the proposed improvement at the entrance to the Brooklyn Bridge seem to promise that this great structure will some day have a gateway commensurate with its importance in the economy of the city. The design of the new terminal by Carrere & Hastings shows a structure of a Rennaissance design in general keeping with the Hall of Records, and it is proposed to build it on the site now occupied by the Staats-Zeitung Building and the adjoining block to the west. This great structure will be open and empty on the ground floor except for staircases and it will be possible to enter the building from all sides and to approach the elevated trains above by some twenty-three sets of stairways, while the trolley tracks will be reached with equal facility by stairs leading to the basement.

IT is not often that the profession is "roasted" as the architects were editorially in a recent issue of the *Evening Sun*, and although we feel that a good many of the criticisms made upon the modern practice of architecture are fully warranted by the facts, we are rather surprised that the editorial was not answered by some belligerent member of the profession. It is the old question of the relative authority and importance of the architect and the engineer, and the *Sun* sums up the situation with the following argument which is hard to answer. "It is apparent, then, that the constructor has wearied of playing the part of understrapper to the artmaker; and is it any wonder, considering what an alien art has become in our time? The general state of affairs is bad enough, in all conscience, and so evident to every one that we find amiable philanthropists devising schemes for bringing art home to the people and supplying it free to the poor. These good people imagine that art is a commodity that may and should be supplied to the needy, like clothes, and their pleasant delusion is the exact equivalent of the artist-architect's and not a bit more ridiculous. For just as they are troubling their souls about how to make the lives of the poor lower classes beautiful by pasting art on them, so have our architects been trying to beautify modern buildings, not by considering their conditions and possibilities, but by devising means for covering them up with an artistic veneer. Go ahead, they seem to say to the engineers; make your horrid steel building, and then we'll see what we can do to make it look like something else—something artistic of our own sort. For steel is employed so generally that the commercial architect can no longer afford to confine himself to brick and stone, while with the increasing use of concrete his usefulness even as a finisher has dwindled. The engineers know this; they know that while they have progressed with the changing needs of the time the architect has failed to keep pace with them trusting still to his art treatment as an infallible panacea. And it is not at all unnatural that they are beginning to weary of him and his insufficient art.

If the architect is to continue in the quality of a guiding spirit it is for him to prove himself something more than a vamper of cast-off patterns."

A REPORT has been published by the Insurance Engineering Experiment Station, of which Mr. Edward Atkinson is Director, entitled "Second Report on Fire-Proof or Non-Inflammable Wood." This report has had considerable circulation and has been quoted in the technical press. Among other things, Mr. Atkinson states :

> "Many of our correspondents on various safeguards against fire, especially in the city of New York, have urgently requested that we make another test, alleging that they were being put to heavy expense under the duress of city ordinances to put inside finish of so-called 'fire-proof' wood within their buildings which they themselves distrust and where they would much have preferred to put in fire and heat-resistant finish of a positively incombustible quality, in their judgment much safer than this chemically treated wood."

As this statement is misleading, Superintendent Hopper, of the Bureau of Buildings, desires to inform the public generally, and the building public in particular, that neither the city ordinances nor the rulings or requirements of the Bureau would, or ever have, prohibited the use of any satisfactory "heat-resistant finish of a positively incombustible quality" in buildings in the Borough of Manhattan. As a matter of fact, such materials are in use in this borough. A list of such materials that have been tested under the direction of the Bureau and approved since the present Building Code is in effect (December 22, 1899) was published in the Annual Report of the Bureau for 1904.

THE TRAINING OF ARCHITECTS.

IN no other profession of equal importance has the training of its adherents received so little consideration from the hands of the public as in that of architecture. In law and medicine some qualification is required before the student is allowed to practice, yet in architecture, which equally concerns the health and comfort of human life, "anyone can call himself an architect," as recently stated by a judge in England. On this account the profession is not held in the esteem it should be, and the public are not protected from untrained and unqualified men. Much has been said of late of the influence of environment on the mind and life of the people. If what has been said is true, what an important part architecture must play in the education of the mind; for just as the beauties of nature or the work of the artist contribute to our welfare, so must the buildings in which we spend so great a part of our lives and those on which we gaze in our daily walks have an ennobling influence, if they are places of beauty in the best sense of the term. A large section of the public are indifferent to architecture, and look upon the architect as more or less of a luxury. If architecture were recognized as a necessary part of everyone's training, it would stimulate men to greater works, as in the time of the Renaissance of Florence.

Opinions differ as to what architecture is. Some consider it as merely the ornamentation of buildings—cover a plain surface of a building with ornamentation and it becomes architecture. Architecture may be defined as sound building, for no building that is well built can be without beauty, proportion, and fitness for the purpose for which it was intended. Ruskin's well-known definition of architecture is perhaps as comprehensive as any ; he said: "Architecture is the art which so disposes and adorns the edifices raised by man, for whatsoever uses, that the sight of them may contribute to his mental health, power and pleasure." Architecture is the mother of all arts and crafts, for the beginnings of architecture are found in the first habitation of man, which he erected to shelter himself from the seasons. These created a necessity for the design and construction of buildings in their simplest forms. As civilization developed and the improved environments of life demanded better homes and conditions of living, so architecture grew and triumphed. To view it rightly architecture is a great art, a noble art, an art which speaks through centuries of the character and history of nations. Through it we learn of the refinements of the Greeks, the triumphs of the Romans, and the religious aspirations of Mediæval times.

The many necessary qualifications of the architect, as enumerated by Vitruvius, cover a large range of subjects. He says : "Architecture is a science adorned with much and varied learning . . . . Practice and theory are its parents . . . . an architect should be ingenious and apt in the acquisition of knowledge ; he should be a good writer, a skillful draughtsman, versed in geometry and optics, an expert at figures, acquainted with history, informed of the principles of natural and moral philosophy, somewhat of a musician, not ignorant of the sciences, both of law and physics, nor of the motions, laws, and relations to each of the heavenly bodies. Law should be the object of his study." "The laws of sewage require his particular attention." The knowledge of the modern architect covers a wider field than that laid down by Vitruvius. To the subjects mentioned by the latter he must add the many branches of learning consequent on the progress of modern times, which have forced upon us new methods of construction and new problems in planning as a result of the advance and development of science. In the days of Vitruvius the architects were the engineers as well. They designed the viaducts, bridges, roads, and other constructional works. These have now resolved themselves into separate professions, on account of the progress of civilization with the accompanying need for specialization consequent on the many new fields of study. But a knowledge of construction and engineering are equally necessary, which have been opened up as qualifications for the modern architect, for he has to construct his domes, flying buttresses, spires, steel buildings, and other similar works.

The first essential in the making of an architect is a liberal general education, to assist him in his professional work, and to train his mind in the art of learning and thinking, and to give him a broader view of his profession. There is a tendency amongst a smaller section of the profession in England to make the door of entry thereinto too narrow by insisting on such a standard of education as would debar, perhaps, many a genius, who would be thus lost to the profession and miss his calling in life.

The old pupilage system is slowly dying out, for as schools of architecture are being multiplied, students are able to attend the classes and thus obtain a thorough grounding in the elements of their profession before entering upon their practical work in the office of an architect. The Architectural Association's Day School in London is chiefly responsible for this welcome change. The school is opened to enable students to study the principles of design and construction, together with the study of the history of architecture, and its developments in different countries. Two years' attendance at such a school should be made by the student, who will thus equip himself for his more advanced work in the architect's office. The advantage of such study is obvious, as the student thereby learns to translate the problems in planning placed before

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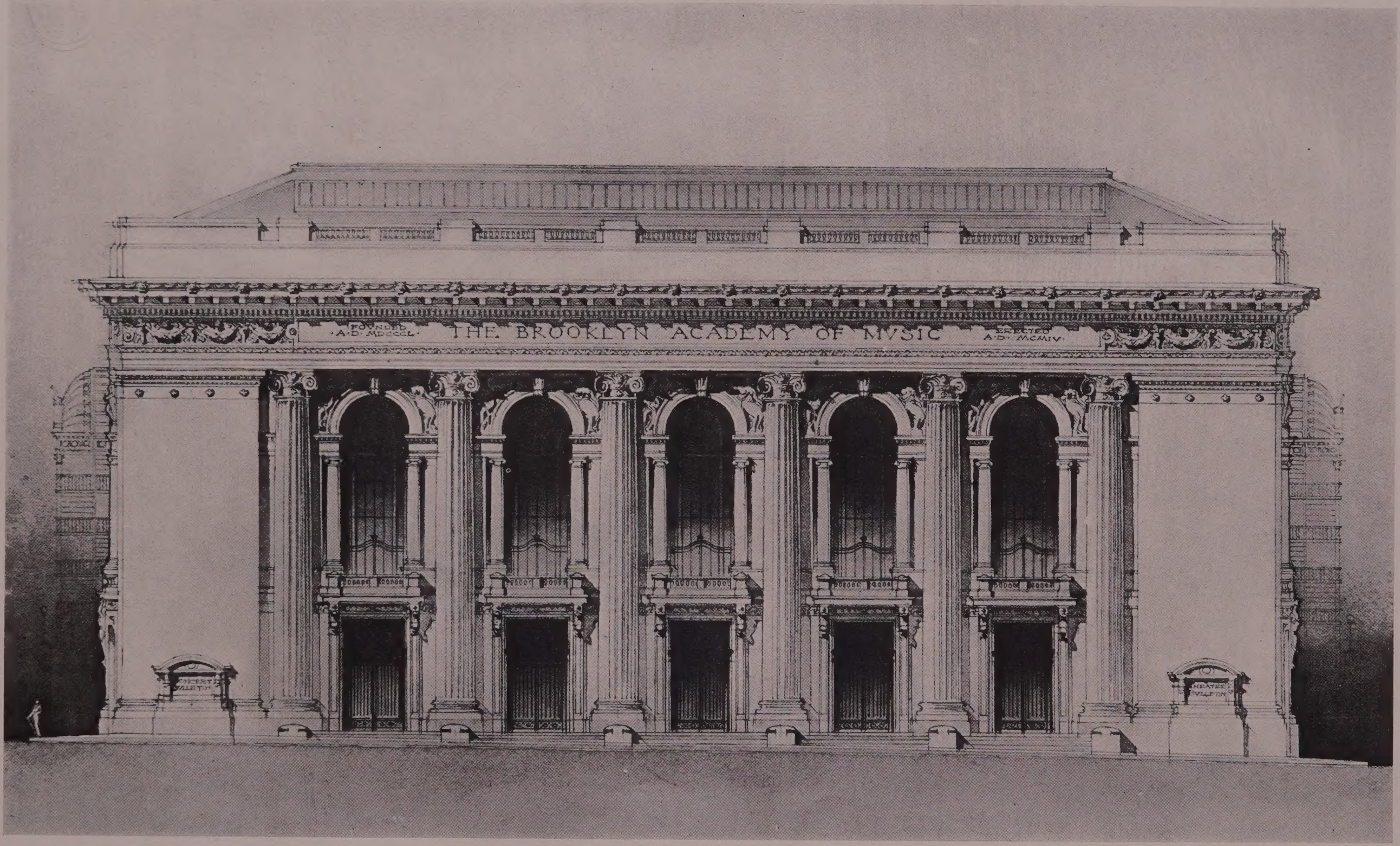
The above paper was read by Mr. Reginald G. Kirkby, A.R.I.B.A., M.S.R.I., F.I.S.E., before the British Association at Johannesburg, South Africa.



ACCEPTED DESIGN, ACADEMY OF MUSIC, BROOKLYN.

Herts & Tallant, Architects.

(Continued from page 167)

him with an ease which greatly facilitates his progress in after life. It is gratifying to see that some of our Universities are giving that place to architecture which it deserves, and are accepting part of the technical education in architecture as part of the course for the B. A. degree. In this connection the Board of Architectural Education at the Royal Institute has opened a new era in architectural training.

The ideal architect should be an artist, scientist, engineer and constructor. The artist must be full of the essence of art, for unless he is his art will not be noble. He must be acquainted with the most beautiful forms in which to clothe his buildings, and must be able to judge of the fitness of the smallest buildings, as well as that of the complete order, and the blending of his colors in the final result of the work he undertakes. The architect must of necessity be a scientist. Pure science should receive more consideration than it has had in the past. It is unjustly charged by some with being a destroyer of art and the æsthetic ideals of the designer, but he who studies nature must study her mechanical and constructional principles as well as her æsthetic laws. A student should be taught the physical properties of building materials, and their geological structure; he should take a course in chemistry, which should aid him to employ the materials most suitable to the various environments, and also to detect defects and impurities. A knowledge of the movements of vitiated air and acoustics will enable him to more perfectly design his buildings for the housing of the public, etc.—a branch of learning often neglected in his training. A study of the laws of light and heat is essential for the working out of many problems in architecture; the effect of the latter on iron and steel structures being of great importance. A course in magnetism and electricity will help the architect to carry out his electric-light installation in a proper manner; and it is needless to emphasize the value of a mastery of the laws of mechanics and graphic statics, for without a knowledge of these how could an architect construct? Just as a painter profits by his knowledge of anatomy, so does an architect by the knowledge of his materials, their strengths, and uses; and only thus can he make Science the handmaid of Art in the achievement of his great ideals.

The architect must also be an engineer and constructor, as well as a pure scientist. The works of the Egyptians reveal some great feats in engineering; such feats as would daunt the courage of many a modern engineer. What greater daring can be found than in the mighty domes of St. Peter's in Rome, and St. Paul's in London, erected with their wide spans at such great altitudes? Does not the Gothic spire of slender construction, as a finger pointing to heaven, raise our ideals? And do not such works as the poising of the lantern of St. Nicholas' Church in Newcastle-on-Tyne fill us with admiration for their engineering and constructional triumphs? Such works as these do not by any means exhaust the list of possible subjects of the modern architect, and in order to be able to execute them he must be an artist, scientist, engineer and constructor, and must keep himself in touch with the advances and changes which are continually taking place in every branch of his profession. To accomplish such works as these, he will need to have a large storehouse of information to draw from at a moment's notice, in order to meet the various requirements of his clients. Whilst there is a tendency amongst modern architects to specialize, this the average man cannot afford to do, yet he should avoid, as recently stated at the Institute, being "Jack of all trades and master of none," but should make it his aim to "know a little of everything, and everything of something."

Before a student can attempt to design any buildings, he should study the origin and evolution of the various styles of architecture in all countries, which is one of the most fascinating branches of the profession, and of vital importance. He should also make himself acquainted with the many influences which determine the architectural development of each country, the state of society at the time, religions of the people, climatic conditions, materials available, and other causes which in a large measure controlled the designs of the architects. In the study of ancient buildings he should not forget that although they were suited to their time, many of them would be unsuitable for the needs of the present day. The student should be thoroughly acquainted with all the various styles in all ages, and master their characteristies, but he should avoid thinking too much in "set styles." In designing modern buildings he should take as broad a view of historical architecture as possible, and not endeavour to reproduce any one style with a mathematical and lifeless correctness in his work. A mastery of the spirit, and not so much the style, in which old buildings were erected will undoubtedly give him originality in his work. The success of the Renaissance architects lay in this. Although they studied old work, they did not attempt to reproduce it; they did not sacrifice their buildings to archæological correctness, and this resulted in their producing a new style suited to the requirements of their time.

Since the introduction of the order into architecture, it has become a part of it; its influence in the expression of our buildings has always been felt both in buildings of Classic and Gothic design, and perhaps always will be, although, maybe, modified to some extent. It is undoubtedly the most perfect feature in giving the suggestion of support to a building that has ever been conceived. The methods usually adopted for teaching the orders are misleading to the student. He learns to draw from a flat copy, without due regard to its relation to the whole building. He is taught nothing of its evolution, but is led to imagine that it sprang into existence all at once. He is not led to study the growth of so wonderful and perfect a production. He should be taught from the models illustrating its constructional use and its general effect, rather than minutely drawing the sizes of mouldings and various parts.

Another valuable aid in designing is the sketching and measuring of old buildings, which will give a student much recreation from his work, and provide him with many a pleasant and instructive holiday. The South African student is practically deprived of this instruction when compared with the student in England, who has many valuable examples of old buildings to study from. He should thoroughly analyze the building he is studying, and ascertain the underlying principles of proportion and fitness which give it the power and life it possesses. A great deal of time is often spent in preparing an elaborate drawing of a small section of a building without any regard to its relation to the whole structure, and in this way many a valuable lesson is lost. The details and mouldings should also receive attention, more especially as to their various sizes in proportion to their distance from the eye and their relation to the complete work.

It is, perhaps, hardly necessary to say that before a student can delineate his ideas on paper, he must be able to draw well. Though to be able to draw well is an invaluable aid to designing,

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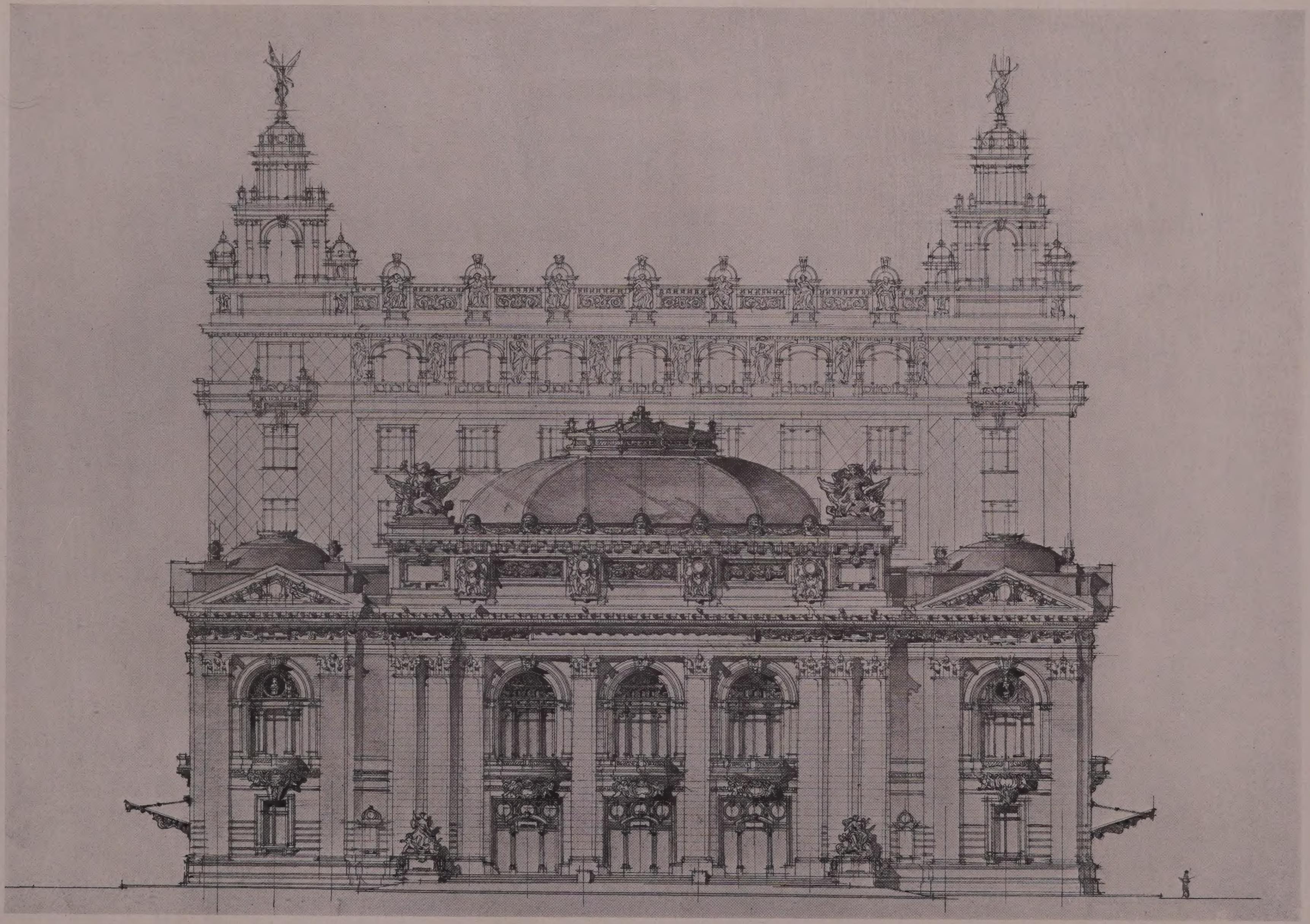

COMPETITIVE DESIGN, ACADEMY OF MUSIC, BROOKLYN.

Howells & Stokes, Architects.

(*Continued from page 169*)

drawing should be looked upon as a means to an end, and too much importance should not be put upon it. It is the completed work which gives us the best idea of what was in the mind of the architect and not so much the drawings. Ruskin tells us that "Drawing may be taught by tutors, but design only by Heaven." Whether design is an intuition or not, the underlying principles must be taught to the student; the cultivation of which will enable him to present works worthy of consideration. In order to design well, it is necessary to acquire the habit of thinking of the building with its environments as a concrete whole, and not as separate plans and elevations. If this habit is cultivated, it will give a student such a grasp of his projected scheme as to enable him to quickly overcome its difficulties. The disappointment we often feel in our buildings is due more to their having been designed as separate elevations. How often is a building spoilt when seen from an angular view, which appeared to be all that could be desired on paper? We see at once that the grouping has not been thought out, nor has the massing together of lights and shades which gives it strength. A rough perspective sketch of a doubtful part or moulding will bring out all its weaknesses, and thus prevent many a disappointment.

Sir Christopher Wren never troubled about his details until he had arrived at a thorough conception of the main ideas of his design. Although details should not be studied to the sacrifice of the general principles, yet no building possesses character without well-thought-out detail. This is where so many buildings fail; the detail is coarse and vulgar, and bears evidence of the untrained mind. A student should have a thorough mastery of his detail; he should know at once how a feature will appear at a height of, say, a hundred feet from the street level. Modelling in clay will be of great assistance to the student in enabling him to correctly judge the necessary reliefs, depths, and sizes of the ornaments which form part of his building. It may not be necessary for him to do the modelling or carving, but he should be able to tell when the work is well done, and thus prevent the employment of sculpture which may not be in sympathy with the general design.

Decoration is as much a part of a building as its construction, and should not be considered as merely an addition in the form of ornamentation. The range of subjects in decoration will extend from the whitewashed cottage to the stately cathedrals with their rich mosaics. Materials should be treated sensibly, and should not suggest want of fitness in their use. The harmony of colors should be studied, with their proper relation one to another, and the effect of light and shade upon them, and their change of hue when lightened or deepened, for a good color scheme requires much thought and knowledge in its application. A student should master these principles in order to obtain harmony and balance in his work.

There is no better method of obtaining a practical knowledge of building construction than that of visiting good works whilst in progress. Lessons will be learned which no books can teach in the supervision of apparently such minor details as the mixing of concrete, etc., and so throughout the supervision of the whole work he will acquire invaluable knowledge. Such knowledge will not only make the student's progress more rapid, but will shed a light on many a difficult problem in his future career.

To gain knowledge as has already been mentioned, the student should have some incentive and guide, and he cannot do better than prepare for the examination of the Royal Institute of British Architects, as the training necessary to qualify for their examinations is almost as liberal and comprehensive as it is possible for it to be. There are practically no existing facilities in South Africa for architectural students to obtain the necessary training, although the Royal Institute of British Architects has consented to hold examinations here. In Germany architecture is regarded as of as great importance as any kind of special knowledge, such as civil engineering, mechanical engineering, chemistry and mining, naval architecture, naval engineering, and general science. At Charlottenburg the proportion of students taking the architectural course is one to six, for whom there is a teaching staff of over thirty members. It is time that properly organized and equipped schools should be started in South Africa in order to give the son of the soil the same privileges as are afforded in other countries. There is a crying need for a faculty of architecture to be fully developed in connection with our university colleges, technical institutes, and schools of art. Till some additional means are provided to enable the young South African architect to obtain a proper theoretical training, we can only hope to turn out rule-of-thumb men. Courses should be formed in such subjects as the history of architecture, architectural design, the properties and strengths of building materials, building construction, statics of construction, steel construction and fire-proofing, sketching, studio work (including freehand drawing, modelling, etc.), sanitary engineering, perspective and solid geometry, together with some business training. We are glad to notice that an attempt is being made to partly meet this need by the Transvaal Technical Institute, and it is to be hoped that the adjoining colonies will follow her example.

Besides his qualifications to design and erect buildings and other structures, the architect must possess a legal mind, for he holds the balance between the client and the builder in the position he occupies as arbitrator, and in dealing with an exacting client or unscrupulous builder his task is no light one. A school of architecture, besides dealing with scientific and artistic sides of the profession, should also train the student in the legal aspect of his work.

An architect's training may be said to have begun on his passing his examinations, and in the many problems which arise in practice under specialized planning in the various branches of his work he will find more scope for learning than his lifetime permits. He must be acquainted with the requirements of various kinds of buildings, such as libraries, museums, municipal buildings, schools, laboratories (together with their fittings), asylums, hospitals (with their special ventilation), business premises, churches, central power stations, and factories (with their mechanical plans), and his knowledge must include the latest forms of construction, such as steel and armored concrete, which require fresh garments to clothe them in. A country house will need its water supply and light, and its sewage must be disposed of on bacteriological or other improved methods, each branch of which has become specialized.

There can be, perhaps, no better means of obtaining a thorough knowledge of such works as have just been mentioned than by entering into competition for them. This will add considerably to the training of the architect.

In every work attempted, in all its details, the student should have a high aim. He should give of his best in endeavoring to make the simplest work he undertakes a thing of beauty; he should make the pursuit of architecture a pleasure to him, for when viewed

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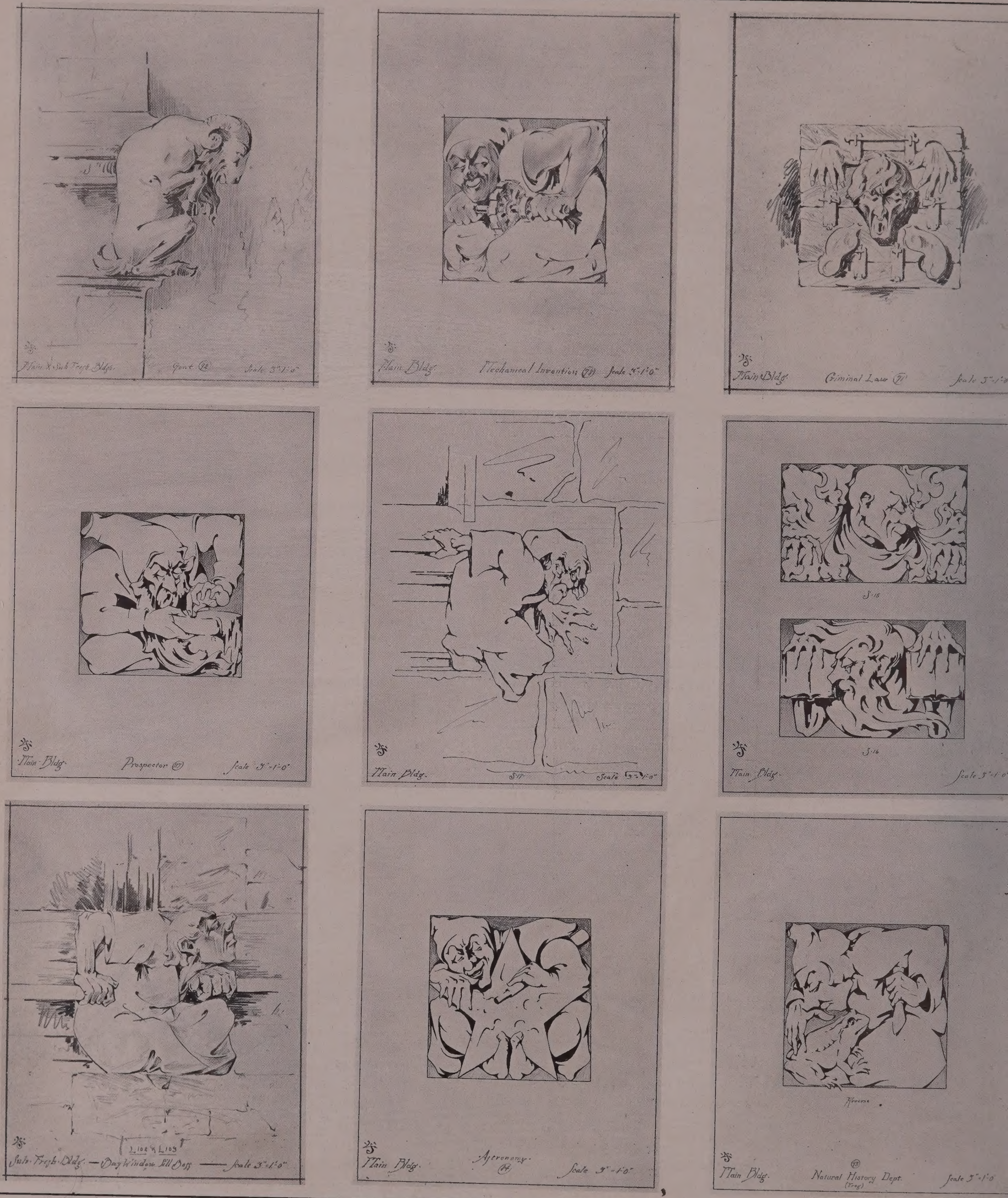
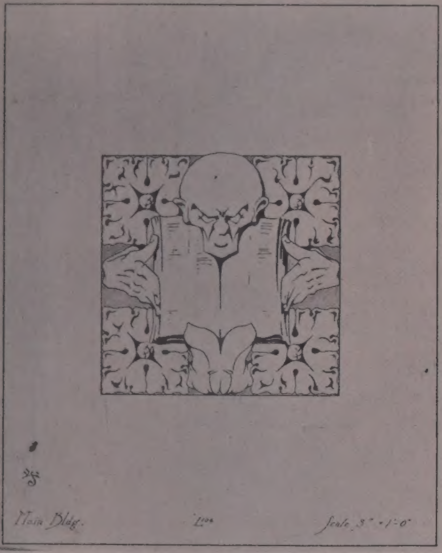
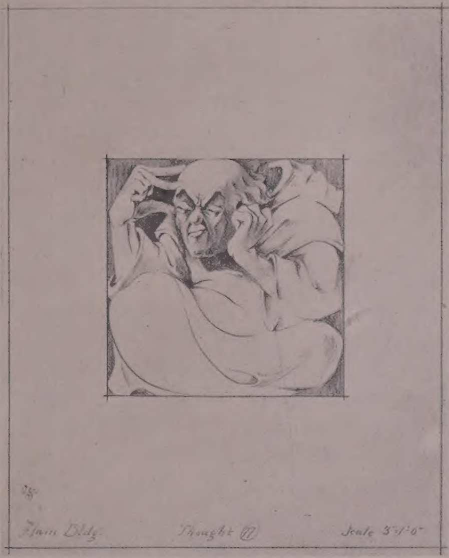
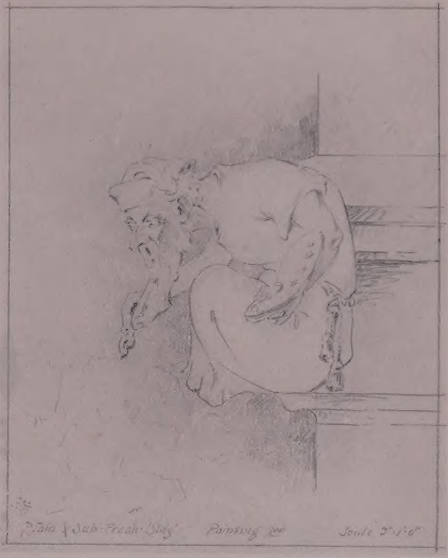
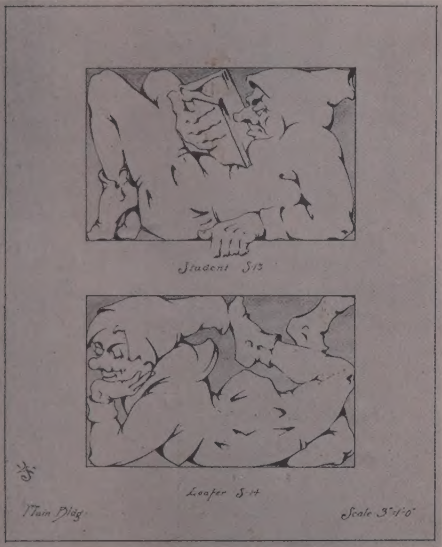


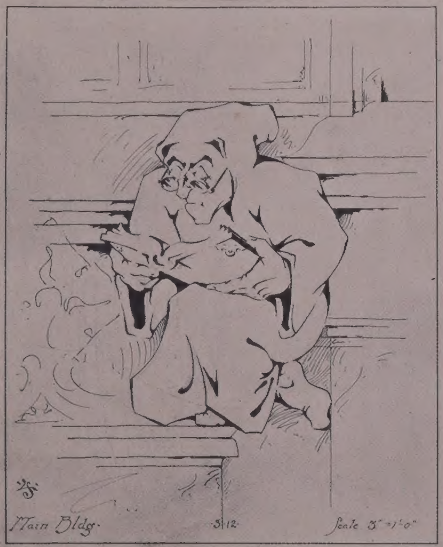
GROTESQUE FIGURES, EXTERIOR, COLLEGE OF THE CITY OF NEW YORK.







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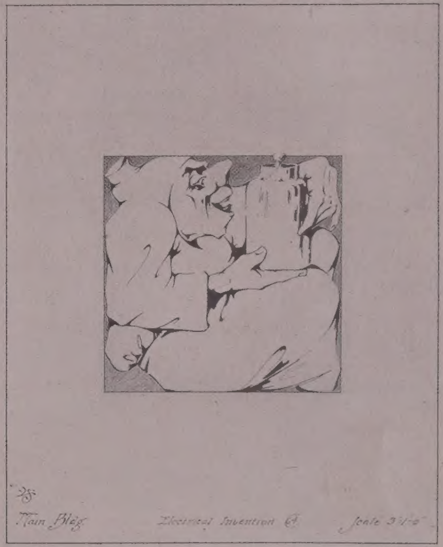
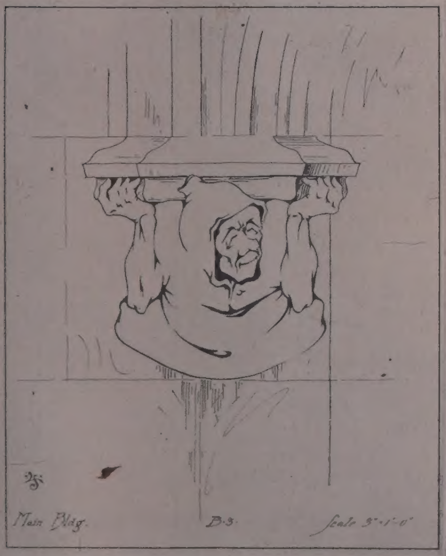
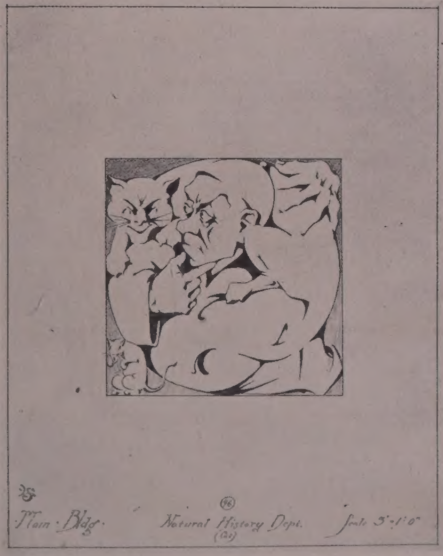
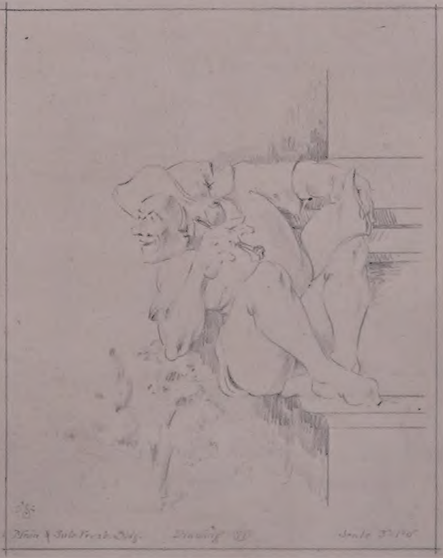








Geo. B. Post, Architect. Executed in Terra Cotta by the Perth Amboy Terra Cotta Co.

(*Continued from page 171*)

rightly it is an ennobling profession. To the true architect, profit making is not the chief end, and there are pleasures to be derived from his work which no money can buy. What greater pleasure can there be than in looking upon one's completed work and knowing he has done his best, and that his hands are clean; like the late Mr. Bentley, who was seen standing under the shadow of his great and noble work a few days previous to his death, and gazing long and earnestly upon the realization of his ideals. How often in passing through the streets of any of our large towns at home and elsewhere, we are faced with buildings of incongruous and offensive design, whose expression unconciously jars upon us. This can be avoided in a new country like South Africa, which possesses great opportunities for architecture, whose present buildings are as but a drop in a bucket when compared to the possible designs of the future. As the character, social life, health, and religion of each country is portrayed in her buildings, so should the future of South Africa, with its sorrows and mysteries, its conquests and triumphs, be indelibly written in permanent structures in the best styles and by the best-trained architects.

THE BUSINESS SIDE OF ARCHITECTURE.

H. S. White.

SOME few years ago, discussion ran high, and considerable bitterness of feeling was shown, upon the question as to whether architecture ought to be considered as an art or a profession. Each view was forcibly argued; but, like most such academic discussions, this one gradually fizzled out into nothingness, and matters were left much as they had been before. Looking at the matter now, after the lapse of time, calmly and without prejudice, one sees that neither view was wholly right and neither was wholly wrong; but it must be admitted that, however capable as an artist an architect may be, he must be possessed of business qualifications of a high order if he would succeed. It is all very well for the young enthusiast to think, at the outset of his career, that he will have nothing to do but to draw pretty pictures all his life. All who have engaged in the rough and tumble of actual practice know that it is very different, and that as practice accumulates an architect becomes less and less the actual designer of his buildings, and more of an organizer of men and controller of a commercial business. Good draughtsmanship and power of design may certainly win for their possessor a few competitions during his lifetime, but the greater part of an architect's business does not come to him by competition, and business qualities are essential if he is to gather and keep a practice round him.

Unfortunately, business qualifications are just those which the academic training, striven after in many places, is least capable of giving. It is a matter of everyday saying that if you want to find a man who is absolutely ignorant of business you must go to a clergyman or a schoolmaster—in other words, you must go to a man who has been trained in schools and colleges during that period of his lifetime when business habits are most easily acquired. Fortunately for English architects, if not for English architecture, the general system of training is by means of an apprenticeship in an office of an architect in practice. It is frequently said by pupils that they learn nothing during their apprenticeship, and that they have to seek outside the office for all the knowledge which they wish to gain. Granted that this is the case, as, unfortunately, it frequently is, with regard to architecture in its higher sense, yet imperceptibly business habits are acquired in an office, together with the power of dealing both with clients and builders in a firm, courteous, and reasonable way. Thrown upon his own responsibility, the young man is not entirely without experience in the management of men, and the general carrying through of complex building operations.

If it be considered what numberless matters of a business character have to pass through an architect's office, it will be seen at once how necessary practical training of this sort is; and the more that a young man can see of it the better. At the outset, an architect has to obtain his clients. To do this he has, with tact and judgment, to let it be known that he is, to begin with, an architect of ability. Sometimes clients come to him, particularly in country towns, simply on account of his reputation. At other times they have to be sought, and business has to be obtained by more definite commercial methods, such as that of personally scheming the best means of developing an estate, and negotiating with its existing owner, on the one side, and on the other with capitalists who are inclined for speculation in bricks and mortar. Take, as two contrasting cases, one in which the client is a business man, and another where she is a fidgety old lady, both of them bringing work directly to the office without being sought out. Interviews take place, and if the architect be possessed of business habits, what happens at each interview is immediately jotted down in his diary, and afterwards confirmed by letter. In the case of the business man, this letter may be a formal business letter, definitely confirming what took place at the interview. Such a direct method of dealing would be well understood, and give confidence. In the case of the old lady, the same thing would have to be done, but in a different manner, so as to give no offence. At this stage, too, the opportunity should be taken to submit a copy of the A. I. A. schedule of charges, it being again accompanied by a letter, or if it be handed over at an interview a note would again be made in the diary. Preliminary sketches are then prepared, and probably many interviews follow, and the drawings are altered several times. On each occasion a diary entry is made, for it is a most essential part of a principal's work to keep his diary absolutely perfect day by day, entering fully everything that occurs, preferably immediately after its occurrence, but at any rate before going home for the night, and signing the entries. Thus, if anything more than ordinary trouble is taken with the preliminary drawings, or material alterations made, the diary entries bear them out; and in such an event an entry must also be made in the day-book. This is the book of accounts which contains notes of each item occurring in the business, which has a money value, as it arises.

Presently a certain particular sketch is accepted. That again is noted in diary and confirmed by letter, and the drawings are proceeded with, definite instructions being obtained from the client, in writing if possible, but in any event borne out by careful entries by one of the means already suggested.

It need hardly be said that a business man will have every single letter copied into his letter-book in proper sequence, so that there should never be any opening for forgetfulness. Similarly every letter he receives would be properly endorsed and kept for reference. In a large business this is done by one of the systems of letter-filing, of which there are several, but in a small business it is quite sufficient to collect the letters, which have been folded lengthwise and endorsed with the writer's name and the date, in packets according to the names of their writers, the packet containing the letters from persons whose names begin with A being kept distinct from the packet containing the Browns and Bevans. Within each of these packets alphabetic order will again be used, the letters from Adams, A. B., coming before those from Adams, C. D., and both before those from Adamson. Further than this, that received from Adams, A. B., on the first of January would be placed in front of that received from the same gentleman a few days later. It does not take a clerk long at the end of each month to fold, endorse, and arrange the letters in this way ; but there is no necessity to keep one month's letters separate from those of the following month, it being more convenient as a general rule to make each packet last an entire year.

If proper diary entries be made and proper letter-books kept, together with proper letter-filing in this way, there is little likelihood of any question arising in the course of business as to what happened in the past, which cannot be easily solved. Added to this, of course, it is essential that there should be proper book-keeping. Unfortunately, comparatively few architects think of keeping a set of double-entry books ; but, although it is troublesome to do this, it is remarkably profitable. Without them there are numberless little items which are sure to be passed over. The architect who keeps a proper day-book, for instance, enters every chargeable item as it arises in this book, and these items are at regular intervals transferred to ledger and appear in their proper places, ready at any moment for the account to be made up and submitted to the client. If this be not done, and in the majority of cases it is not, the task of compiling a bill at the conclusion of a large and complicated matter is no easy one. Most of us are well aware of what happens, how all the drawings are got out, and an ill-kept diary consulted as to when and why certain things were done. Memory has to be trusted to a very large extent, and in the end the architect is content, as a general rule, with charging his usual commission to cover everything, though he knows in his heart that there are several little items for which he is justly entitled to additional remuneration.

As the work progresses the necessity for thorough business methods become more and more palpable. There are contracts to sign, multitudinous drawings to get out, numerous interviews with builders and inspections of the works, involving detailed directions, many of which affect the ultimate cost of the building. It is perfectly certain that the builder will omit no item in his ultimate bill for which an extra charge can be claimed ; but, on the other hand, it is not likely he will remind the architect of the many little savings which have been effected. If the architect is unbusinesslike, these have probably been ordered or sanctioned verbally, and have then passed out of mind ; but the careful business man will have noted them, and possibly have written about them to the contractor.

Perhaps the worst habit which an architect, or other professional business man, can get into is that of unpunctuality, whether it be in the matter of submitting drawings or reports at the promised date, or in keeping appointments. Unpunctuality gradually leads into slovenliness, or, at any rate, is unconsciously considered to be slovenly by those who suffer from it, and if it become habitual, is certain to result in serious loss of business. This is particularly the case in settling up accounts at the conclusion of a contract, when both the builder and the building owner, as a general rule, wish to close the matter up with the greatest promptitude. It is here where the man with business instincts scores perhaps more than anywhere else. He will have perfect records of all that has taken place, from the beginning to the end, arranged in such a way as to be easily accessible. His clerk of works' reports have been kept, like everything else, in perfect sequence, and a regular account kept of the building, as has been done by the builder himself; for it is quite as possible to ledger building work as it is to ledger personal accounts. Most items will have had their increased or decreased cost settled at the moment, while the few which have been left for final adjustment will be known, and in many instances will already have been measured up. Under these circumstances an account is soon drawn out. The business man recognizes that it is much better to produce such an account himself than to leave it to the builder, and then a single interview upon the works will probably settle all that has been left undetermined.

Another point upon which a good business man scores largely over his unbusinesslike competitor is in the management of his office. He is almost sure to possess the capacity of choosing his assistants well and paying them fairly, but not excessively, for the work which they perform, keeping them well in hand, and seeing that they produce a good day's work for a good day's pay. The man who is devoid of business training too often frets his assistants by wanting to do everything himself, fidgeting about the drawing office and not being content to give instructions and then leave the matter alone, to a reasonable extent, with competent men. A good manager, on the other hand, knows that it pays far better to have a competent than an incompetent staff, and he can get, as a general rule, better work out of the same material than can another man, perhaps more talented and more artistic than himself, who does not possess business ability.

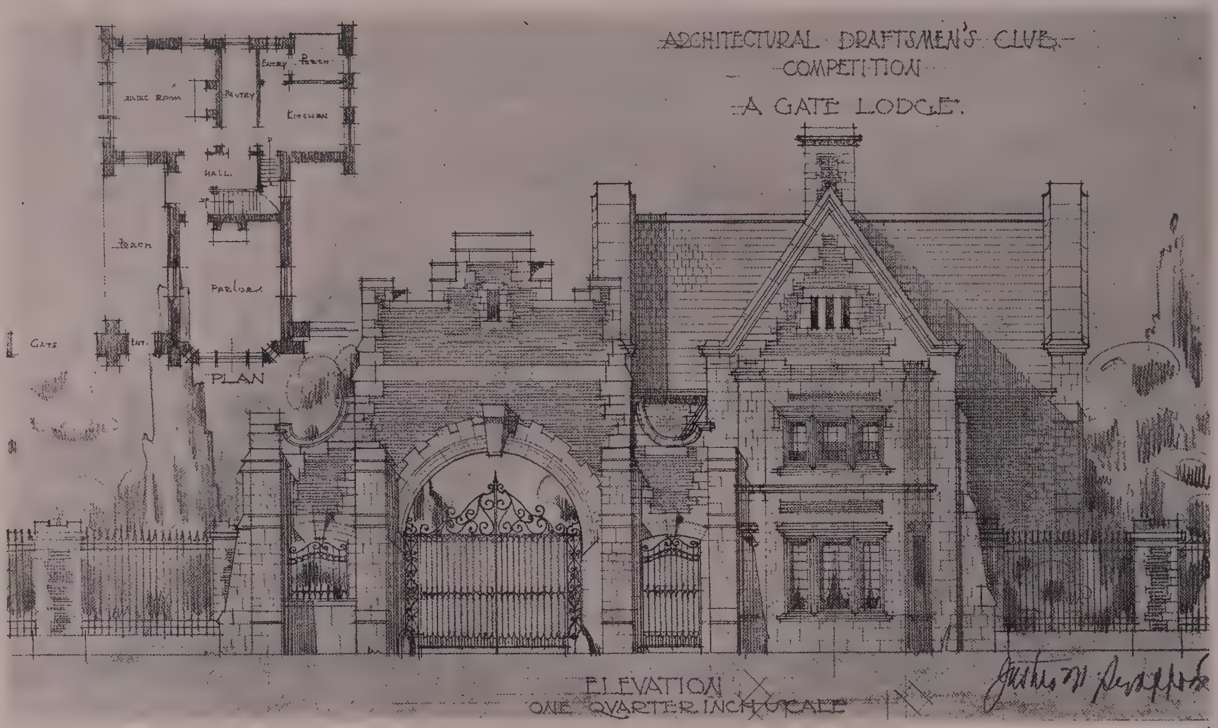
It may be said that this capacity for business is very difficult to acquire, and so in one sense it is. It is certainly not taught at architectural schools or evening classes. There the young architect goes to learn his business as an architect, but not to learn to become a business man. Of course, it is essential that an architect should thoroughly understand architecture, and be able at any time to do his work for himself, and to properly control those under him, so that the school and the class should by no means be neglected. It is, however, universal experience that the man who has only class knowledge is always the servant of the man of the world. Many cases could be cited of thoroughly good designers who have failed in practice and have to remain as assistants at small salaries throughout their lives, while men of less ability as architects, but of greater business capacity, are doing well in the world. Business can only be learned by doing business. To a certain extent business aptitude may be natural, but in most cases it can be cultivated, and it is well worth cultivation.

EXTRANEOUS SUBJECTS IN AN ARCHITECT'S CURRICULUM.

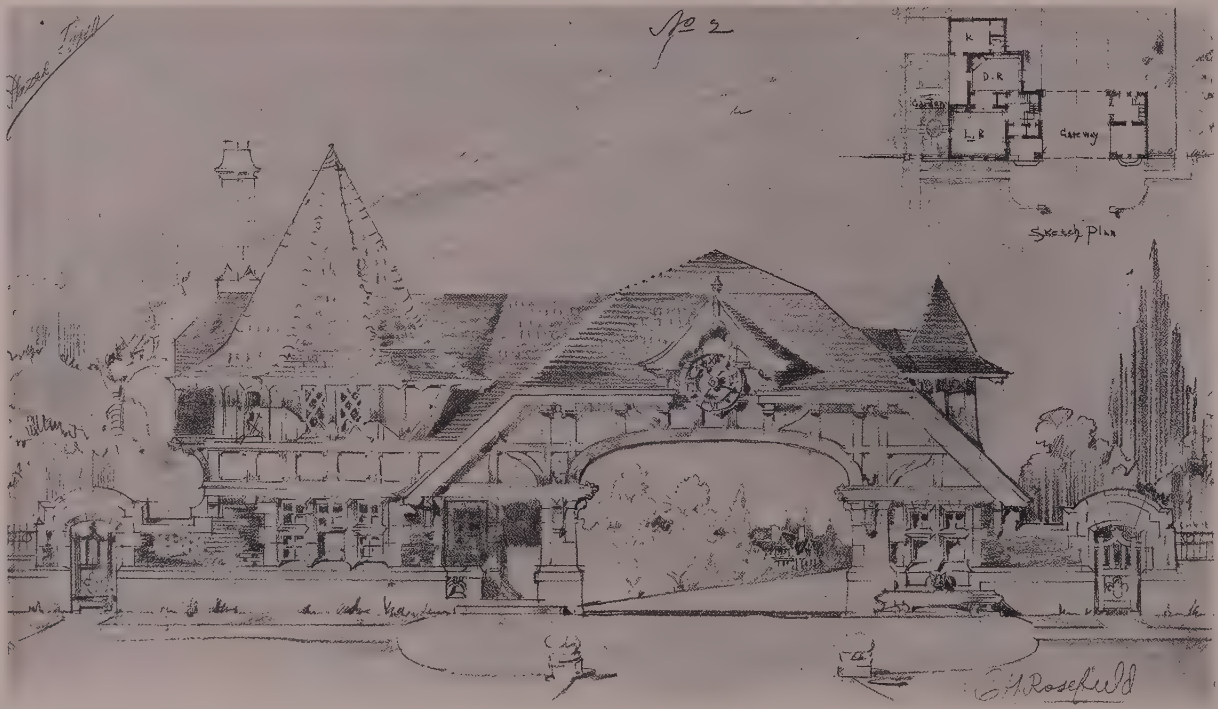
J. H. Smith.

AMONGST the workers engaged in building operations it is held to be little less than a crime for a man who is employed in one branch, such as carpentry, to practice another, such as masonry. The principle is a good one—that it is better to be master of one trade than Jack of many. But, given the mastery of one, there is no harm and much good to be obtained from a knowledge of others, especially so far as they affect the one. Thus for a carpenter to understand the principles of masonry will not make him a worse carpenter, but a better; and if he extends his knowledge—not his practice, perhaps—so as to include all the other ordinary building trades, he qualifies himself for the position of

(*Continued page 177*)



A GATE LODGE. Placed Second. J. M. Scrafford.



A GATE LODGE. Placed First. C. H. Rosefield.

ARCHITECTURAL DRAFTSMEN'S CLUB COMPETITION.

(*Continued from page 175*)

a general foreman or a clerk of works, or to become a master builder for himself.

If this be true as regards artisans—and universal experience shows it is—it is certainly equally applicable to the professions. Few would be found to deny that a clergyman or a sea captain is a better clergyman or sailor for a knowledge of medicine and surgery, sufficient so far as it goes, to enable either to deal with simple or emergency case, at least temporarily. So, too, must it be with architects. First, and above all, an architect must be a master of his craft; but this is no reason for the limitation of his horizon so strictly as to include nothing beyond architecture.

Ever since the days of Vitruvius, and possibly long before, this has been acknowledged. There is no necessity for him to become a professional lawyer, or a practicing analytical chemist; but he is all the better architect, better able to safeguard his clients' interests, if he has some considerable knowledge both of law and of chemistry, as they affect building operations. Nor are these the only directions in which, in the complications of modern life, an architect can advantageously direct his studies. In very truth, the scope is limited; but consideration of a few of the more obvious may possibly be useful.

In the matter of law, questions are constantly arising of dilapidations, party-walls, and interpretations of contracts, to say nothing of the local by-laws, which affect building operations so closely that no architect can neglect them with impunity. From beginning to end of his work they touch him at every point. He must plan in conformity with legal regulations; his architectural features must not infringe on neighbors' rights; his specification must admit of but one legal meaning; his conditions of contract must be in conformity with common law. In cases of exceptional difficulty a solicitor would be consulted, and in no instance should a solicitors' functions be usurped; but in the ordinary course an architect must be able to steer clear of legal pitfalls. He must, in fact, possess a certain amount of legal knowledge, exact and up-to-date, if not very extensive.

So far as medicine is concerned, it might be thought at first sight that an architect had nothing to do with it. Hardly so, however! With the causes and means of prevention of zymotic diseases at least he must be familiar. The architect calls the subject "sanitation," and often deals with it more or less by rule of thumb; but he deals with it all the same, and the more he knows of the basis on which he works, the better it is for those who live in the buildings whose erection he controls. There is no need, again, for him to know enough to practice as a doctor. His function is to prevent disease, just as it is to avoid lawsuits.

The allied subject of analytical chemistry affects an architect more with regard to the selection of his materials and the means of testing them. It requires but little knowledge, for instance, to convince him that iron should not be attached to oak, especially where both are exposed to moisture; that zinc is a material which should be avoided near the sea coast, and that limestone soon decays in atmosphere of a manufacturing town. These are, certainly, elementary facts which are drummed into every student; but he who understands the "why" which underlies them is less likely to have mistakes, similar, but not identical—than he who does not. In the matter of testing, too, a little knowledge of chemistry, so long as it be correct, is most valuable, Again, to take an elementary example, once the effect of dropping even the smallest quantity of hydrochloric acid on a limestone has been witnessed, and compared with the absence of result when the same test is applied to granite, slate or sandstone, the method of detecting the presence of lime is never again forgotten.

Geology, so far as it relates to building stones and brick earths —metallurgy so far as it concerns iron, copper, tin and their compounds—botany, at least so far as the growth, structure and peculiarities of the timbers used in constructional work, are all essential branches of the curriculum of an architect who aspires to be anything more than a maker of pictures. He need not be a geologist, a metallurgist, or a botanist, each of these sciences demanding a lifetime of study for its mastery. It is for the scientist to investigate, to systematize, and to put on record the results; it is for the architect to make use of his labors, and to take advantage of the facts so patiently discovered and disclosed. The architect's function is to lead in architecture. He has only to follow in science and to apply to the construction and embellishment of his buildings the knowledge which others have placed at his disposal; but to do this intelligently he must comprehend the sciences; and must read what the scientists have written,

The necessary extent of an architect's scientific knowledge is, too, constantly being enlarged. In many instances he has not more to learn, but his learnings change. New investigations disclose new facts, an acquaintance with which becomes essential in place of others, still facts, but no longer essential. But in other directions, especially in the newer sciences of electricity and magnetism, there is definite growth and extension. A quarter of a century ago, or less, comparatively little was known of these, and as applied to building works their practical application was negligible. It is now quite a different thing. Electric lighting, telephones, and electrically driven ventilating fans, have all to be provided for, and thus an understanding of the principles underlying their application has become essential. Just, however, as the architect need not be a lawyer or a geologist, so there is no necessity for him to become an electrician, any more than he need be a practical bricklayer or joiner; but he is the "master" over the work committed to his charge, and must know enough of all its elements to enable him to control those under him and bring them into harmony.

It may be objected possibly that to expect an architect to know so many things as we have outlined is to demand too much—that such an extent of extraneous study must necessarily take up time which should be devoted more definitely to architecture. This is, however, the argument of the lazy—of the man who is content with mediocrity. The wider are an architect's views, and the more extensive his knowledge, the better, and not the worse is his architecture likely to be. The man who is content surely goes back. and although some may have inclination and ability rather in one direction than another, none can dare to neglect apparently extraneous subjects so long as they touch, however slightly, their own profession.

Occasionally this is brought home forcibly to every man. If a building is wanted for some special purpose, it must, above all things suit that purpose. He who would satisfactorily design even a simple dwelling-house must be accustomed to, or at least comprehend, family life. And much more must the designer of churches understand ritual, and he who would plan a brewery understand brewing. Granted that this special knowledge can always be specially obtained when needed, it yet remains that he who has least confined himself within a narrow ring is best fitted to meet unusual circumstances.

THE SCHOOLS OF ORNAMENT.*

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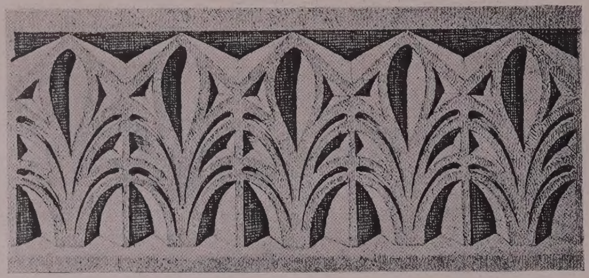
Byzantine.

330 A. D., 1453 A. D. Fall of Constantinople.

BEFORE the seat of government was changed from Rome to Constantinople in 395 A. D., Byzantine art had already been born, but after this change great luxury and magnificence became the order of the day, and the arts of ancient Rome were mingled with the eastern and classic schools. This resulted in a hybrid but splendid style of design to which the name of Byzantine, Byzantium being the ancient city, properly attached itself. The influence of this Byzantine art was felt all over Europe, and especially in Russia, Italy, Germany and France. Hence we find in the Romanesque and the Renaissance work many traces of the Byzantine school. The crescent moon was originally a Byzantine emblem, afterward adopted by Constantine, and later still by the conquering Turks.

The characteristics are almost barbaric splendor united with a most effective disposition of plain surfaces, and of ornament thereon. A certain stiffness and crudeness in the outline of geometrical patterns is noticeable, with backgrounds of excessively conventional foliage, generally of the arcanthus leaf. The most famous examples of Byzantine work may be seen in the churches of Santa Sophia and others at Constantinople, and in the basilicas or early Christian Churches of Ravenna in Northern Italy, while the museums of almost all great cities of Europe contain fragments of Byzantine design in ivory carvings and mosaic or marble.



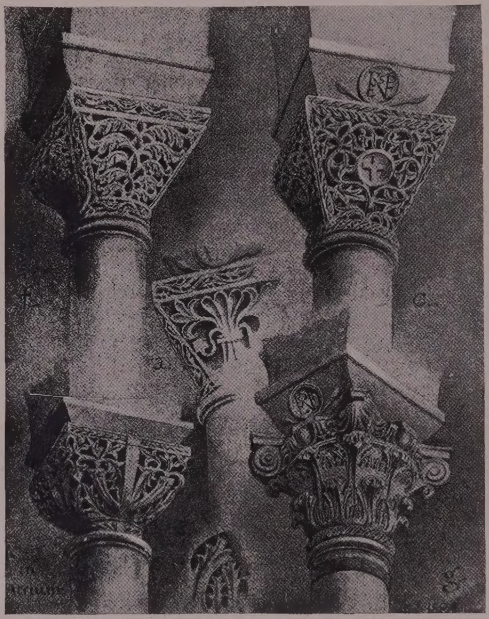
Ancient Fragment of Frieze, found at Toledo, Spain.

In many cases jewels were used as plain surfaces or as studs and bosses, surrounded with twisting stems of arcanthus or winding stems of filigree work. The interlace was especially conspicuous and very ingeniously used. This descended to the Romanesque school where it is very often found, but often with a great deal of acanthus or other foliage forms attached. It is very dfficult to distinguish properly the Byzantine from the Romanesque in many cases, so closely are they allied.

It is interesting to note how many designs in other schools are evident out-growths of Byzantine art, or at least have taken their most telling features from this source. Extreme richness seems to be the result of such borrowing, and if one will note the frequency with which the boss, in oval or round form, and the different interlaces occur in the German, Flemish, English and Italian Renaissance, he must admit their value when properly used.

Capital, St. Mark's, Venice.

Byzantine work of the best period teaches the value of contrast between plain and enriched surfaces, the strength of ornament applied to an already constructed or formed material in distinction to that which is part of the construction itself, also the value of "ornamented construction" in place of constructed ornamentation.



Capitals at Parenzo, Istria.

It is a great mistake to suppose that Byzantine art is hard and unfeeling in all its productions; certainly too many great examples prove the contrary.

We are apt, in the light of the effect which decadent work of Constantinople artists had on the early Italian painters to class it as one of the uninspired schools, but a style which could bring back, if indeed it did not excel, the ancient glory of Roman and Oriental mosaic, which successfully solved the roofing of great spaces by the arch on pendentives buttressed by semi-dome and pier, as in Santa Sophia and in the hundreds of other existing churches and mosques in the East, which influenced not only the Orient, but the Western nations also, and still continues to exert this influence, must stand among the most famous schools of ornament. Indeed, the single fact that the early Italian painters of the Renaissance were inspired by the Byzantine Mosaics of Ravenna, Rome and elsewhere, alone makes it famous and enduring in the history of art.

If it were only by the great beauty of the mosaic wall decorations in Constantinople alone that we knew Byzantine art, it would rank high, but when there is added the infinite wealth of carving which we find all through Italy, parts of the Orient and Northern Africa, full of virility and richness, we begin to realize what architects, painters and all artists owe to Byzantium.

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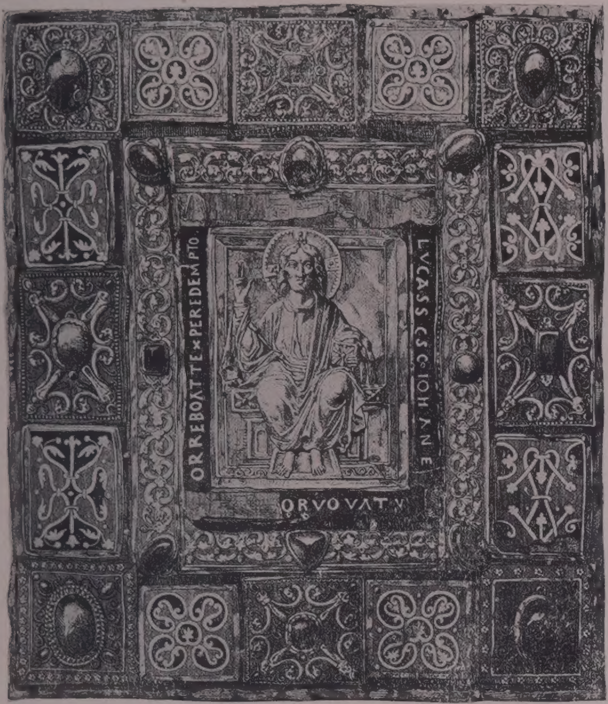
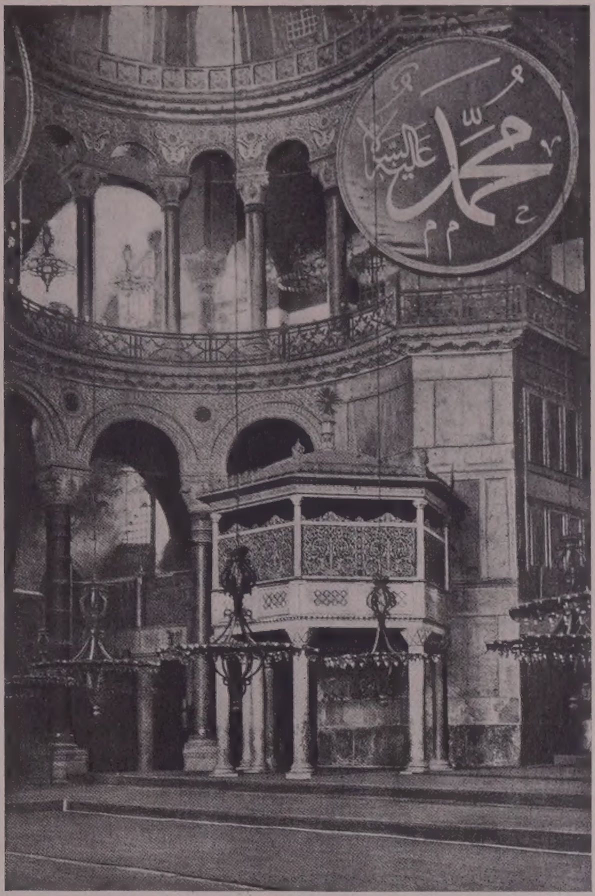
* A series of articles written by Mr. William Winthrop Kent, Architect, forming part of "A Treatise on Locks and Builders' Hardware." by Henry R. Towne, President of the Yale & Towne Mfg. Co., and Past President of the American Society of Mechanical Engineers. This book is profusely illustrated and contains more than 1100 pages, 4x6½". John Wiley & Sons, Publishers. Price, $3.00. It is the intention of the publishers of ARCHITECTURE to reprint one school in each number.



Manuscript Cover. Yellow, White, Blue and Green Enamels.

Carvings, Santa Sofia, Constantinople.



Interior, Aya Sofia (Santa Sophia), Constantinople.

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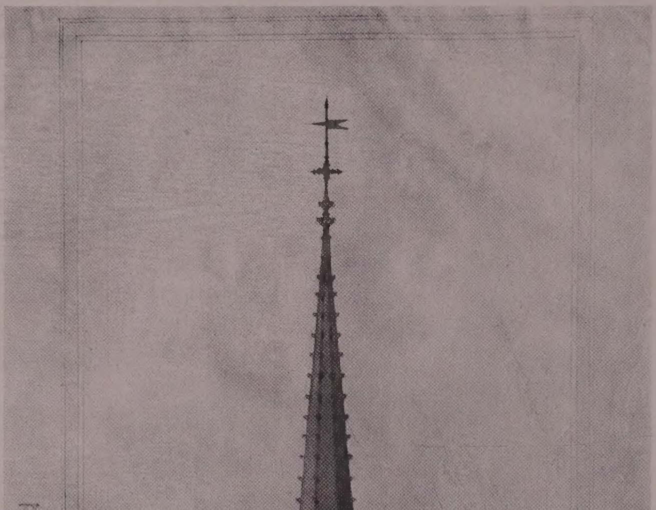
PROFESSIONAL COMMENT.

THE opening of the academic year at the School of Architecture of Columbia University is somewhat noteworthy as marking the beginning of the operation of the new *atelier* system, already referred to in our issue for last June. The McKim Draughting Room is located at 14 West 23d Street, and is under the immediate supervision of Mr. John Russell Pope, Jr. The Hastings Draughting Room, located at 12 East 42d Street, is under the immediate supervision of Mr. John V. Van Pelt, formerly at the head of the College of Architecture of Cornell University. The Columbia Draughting Room in Havemeyer Hall continues as formerly to be administered by Messrs. W. A. Delano and A. H. Gumaer. All three draughting rooms are integral parts of the School of Architecture, and the four instructors above named together with Mr. Charles F. McKim and Mr. Thomas Hastings, who have been recently appointed Professors in Columbia University and who will have the general supervision of the down-town *ateliers*, constitute the Department of Design of the School and have the general direction and control of the instruction in design. A special jury list of distinguished architects has been prepared, from whose ranks will be chosen a number of jurors, who with a representative of each draughting room will pass judgment and make the awards upon the designs of all grades submitted by the students. The new system has gone into operation with the utmost smoothness, and is giving the most satisfactory results. While it borrows much from the experience and practice of the Ecole des Beaux-Arts, it is more flexible, and in its detailed administration is marked by a number of original features specially designed for the conditions of an American university professional school.



BEAUX ARTS COMPETITION. A CHAPEL SPIRE.
Mention, Placed I, I. A. Ferrari, Atelier Hornbostel.

AT the last meeting of the Trustees of Columbia University, before the Summer vacation, definite action was taken looking to the formal establishment of a faculty of Fine Arts in the near future. It is probable that the first steps towards its organization will be taken during the coming Winter. The carrying out of the formal alliance between this faculty and the Schools of the National Academy of Design must await the definitive constitution of the new faculty and the provision, by joint effort of the University and Academy, of the funds required for the erection of a suitable building for their joint occupancy. It is hoped and believed that this will not delay the consummation of the enterprise very long.

THE George Washington University has inaugurated special courses in Architectural Design and Architecture. The special course in design, or Beaux Arts course, will include the regular problems issued by the Beaux Arts Society of New York. These problems will be criticised before the class, and the work of each student individually will also be criticised by architects, who will assist the regular Professor of Architecture, and who will each have charge of a different problem, from the making of the preliminary sketch to the completion of the "rendu." The special course in architecture for which a certificate of proficiency will be given, will include the regular problems in design, given by the Professor of Architecture, as well as the beaux arts problems, lectures on the History of Architecture, construction, drawing from the antique and life, at the Corcoran Gallery of Art, perspective, etc., etc.

KNOWSLEY, where Lord and Lady Derby entertained King Edward, is no doubt a very roomy dwelling-house, but it is scarcely, as stated by a contemporary, the largest in England. This proud position is generally accorded to Lord Fitzwilliam's Yorkshire seat, Wentworth-Woodhouse. Of this house it is said that the three principal entrances are so far distant from each other that visitors are advised to bring three hats with them, one to be kept at each point of egress. This is, of course, a needless counsel; but a house which is six hundred feet long, has a hall into which two average suburban villas could be comfortably placed, and boasts a room for every two days of the year, is certainly large enough to satisfy any reasonable ambition.

Destiny has turned many a man down while he was waiting for something to turn up.—*Success Magazine.*